DOCUMENT RESUME

ED 154 881 JC 780 294

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TITLE Electronics Program Review: Student Survey [and] Secondary Data.
INSTITUTION Kalamazoo Valley Community Coll., Mich.
PUB DATE Apr 78
NOTE 35p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Age; Assignments; Community Colleges; Comparative Statistics; *Courses; Educational Objectives; *Electronics; Enrollment; Females; Grades (Scholastic); Institutional Research; *Junior Colleges; Males; Productivity; *Program Evaluation; Student Characteristics; Student Employment; Student Opinion; *Surveys
IDENTIFIERS Drop Add Transactions (Courses); Seat Utilization

ABSTRACT

This document contains two reports on students in electronics courses at Kalamazoo Valley Community College; the first provides student characteristics data as well as students' perceptions of the courses, and the second presents secondary data gathered from various internal college sources. In the first study, 96 students (46.4% of those contacted) enrolled during spring 1977, fall 1977, and spring 1978 returned questionnaires eliciting information on sex (90 male, 6 female); age (34 aged 18-21, 38 aged 22-30, 20 aged 31-40, and 4 over 40); employment (over 80% employed); need for prerequisite courses (65 indicated math, 29 reading, 32 writing). Students enrolled in spring and fall 1977 differed from students enrolled in spring 1978 in terms of educational goals; a higher proportion of 1978 students sought a degree in electronics (76% versus 31%). The most frequently stated reason for withdrawals, low grades and for not meeting goals was excessive workload. The second study collected information on enrollment history, grade summary, seat utilization rate, and drop/add transactions. Comparisons between electronics and other programs for which similar data were available indicated that enrollment per section in electronics averaged 6.9 students below the academic mean, passing grades were 28% lower, seat utilization was 14% lower, and drop/add transactions exceeded those for other disciplines. (TR)

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ED154881

ELECTRONICS PROGRAM REVIEW:

STUDENT SURVEY [AND] SECONDARY DATA

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JC 780 294

Office of Institutional and Management Studies

KALAMAZOO VALLEY COMMUNITY COLLEGE

April 1978

ELECTRONICS PROGRAM REVIEW
Student Survey

027/77

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April 1978

Introduction

This report presents one aspect of the Electronics Program Review, a survey of current and former electronics students. The survey was requested by the Dean of Instruction. A previous report which contains data about electronics courses enrollment and grades may be useful for reference: "Electronics Program Review: Secondary Data".

Presented below are the study methodology and findings.

Purpose

The purpose of this report is to provide information about students who have enrolled in electronics courses and to obtain their perceptions of those courses. This information is presented to instructional administrators for use as appropriate.

Survey Method

The population for this survey was defined as all students enrolled in electronics (ELE) courses during Spring 1977, Fall 1977, and Spring 1978 semesters. Excluded were students who were enrolled only in a coop-education class. Duplications were eliminated, and each subject was counted in the semester of most recent enrollment. Following this process, questionnaires were mailed to 75 students enrolled Spring 1977, 50 enrolled Fall 1977, and 107 enrolled Spring 1978. All questionnaires included a postage-paid return envelope and a cover letter.

Former students (Spring and Fall 1977) received a slightly different questionnaire than did current students. Both instruments are attached, with tallies for each closed response item.

A second questionnaire was mailed to non-respondents approximately two

weeks following the initial mailing. A total of 96 returns were obtained, or 46.4% of the 207 deliverable questionnaires. Table 1, below, gives the response rate for each mailing and the total response rates.

TABLE 1

Survey Population and Returns

	Number Mailed	Number Undeliverable	First Mailing Returns	Second Mailing Returns	Response Rate
FORMER STUDENTS	125	20	16	35	48.6%
CURRENT STUDENTS	107	5	28	17	44.1%
TOTAL	232	25	44	52	46.4%

Individual courses were well represented. Looking at each course return rate, the lowest was 29% (ELE 105, Spring 1978) while 70% of the ELE courses involved had a 35% or better return rate. These rates reveal that the data are not disproportionately representative of any single course or instructor.

The distribution of grades received in ELE courses by survey respondents was very similar to the overall grade distribution in ELE courses for Spring 1977 and Fall 1977:

TABLE 2

Percent Distribution of ELE Grades
Spring and Fall, 1977

	Passing	Failure	Incomplete	Withdrawal
Total ELE Grades	40%	33%	6%	22%
Respondent ELE Grades	40%	31%	4%	25%

The survey respondents, then, are well representative of all ELE students for these semesters, in terms of course enrollment patterns and grade distribution.

Findings

Findings for questions which were asked of both current and former students are presented first. Items pertaining to only former ELE students or only current ELE students follow.

Sex. Of the 96 respondents, 90 were male and 6 were female.

Age. Thirty-four (35.4%) of the respondents were 18 to 21 years old. Respondents aged 22 to 30 number 38, or 39.6%. Twenty (20.8%) were 31 to 40, and four (4.2%) were over the age of 40.

Employment. Over 80% of the respondents reported they are currently employed. Table 3 gives the employment status of former and current ELE students.

TABLE 3

Employment Status

	Former Students		Current Students		Total	
	N	(%)	N	(%)	N	(%)
Employed in Electronics Field	14	(27.5)	12	(26.7)	26	(27.1)
Employed -- not in Electronics Field	29	(56.9)	22	(48.9)	51	(53.1)
Not employed	8	(15.7)	11	(24.4)	19	(19.8)
TOTAL	51	(100)	45	(100)	96	(100)

Need for courses. Respondents were asked: "Do you feel you need courses in any of the following areas, in order to do well in electronics courses?" Math was the area chosen most frequently, by 65 (67.7%) of the respondents. Twenty-nine (30.2%) of the respondents indicated course work was needed in reading, while 32 (33.3%) indicated course work was needed in writing.

Former Student Findings

Goals. Former ELE students were asked their primary reason for enrolling in electronics. Table 4 gives the responses to this item:

TABLE 4

Reason for Enrolling in Electronics

Response	Number	Percent
To get a degree in electronics	16	31.4
To improve skills for present job	11	21.6
To help get a new job	12	23.5
For personal interest	14	27.5
Other	4	7.8

Note: Responses do not total 100% due to multiple responses.

Former students were then asked if they had reached their goal. Of the 51 former student respondents, 10 (19.6%) said "yes", and 41 (80.4%) said "no", they had not reached their goal. Those who indicated they had not reached their goal were asked the reason, and 38 of the 41 responded to this question. The primary reasons were:

Not finished with course work -- 9
Withdrew from program (course) - 9
Workload was excessive -- 6
Desired courses not available -- 5
Other reason -- 9

Withdrawals. Twenty-seven (52.9%) of the former student respondents indicated they had withdrawn from an electronics course. Reasons given for withdrawal were:

Workload was excessive	-- 8
Conflict with work or course	-- 4
Instruction not satisfactory	-- 4
Personal reason (health)	-- 4
Other reason	-- 6

Low grades. Those students who had received a low grade in an electronics course were asked what they thought was the reason for the low grade. In general responses to this question were:

Workload was excessive	-- 5
Material not adequately covered	-- 3
General problem with instructor	-- 3
Lack of student application	-- 2
Other reason	-- 2

Current KVCC status. Eighteen (35%) of the 51 former ELE students are taking courses other than electronics during the present semester (Spring 1978).

Current Student Findings

Goals. Thirty-four (75.6%) of the 45 respondents who are currently enrolled in ELE courses plan to take more electronics courses at KVCC. Ten students reported they plan to obtain a degree in electronics from KVCC. The most frequent type of comments from students regarding their future educational plans dealt with plans for transfer and their ability to get the necessary courses.

Withdrawals. Six students indicated they have withdrawn from one or more ELE courses in Spring, 1978. Reasons for withdrawal were related primarily to the instructor (2) or job interference (2). The two other students mentioned a problem with the instructor as well as another reason.

Eleven students reported they are considering withdrawal from an ELE course. Reasons given were varied, and included a need for math, excessive workload, problems with the instructor, and personal problems.

Overall Comments and Suggestions

Twenty-five of the 45 current student respondents, and 31 of the 51 former student respondents wrote additional comments on the questionnaire, an unusually high proportion. Excerpts from these comments are included as Appendix A. Generally, students commented on the amount of time required for assignments, the poor preparation of instructional aids, quality of lectures, instructor personality and instructor expectations, and inability to get a desired course.

Conclusions

Students who enrolled in electronics courses during the Spring 1977, Fall 1977 and Spring 1978 semesters were surveyed, with a response rate of 46.4%. Eighty percent of these students are currently employed, and nearly 65% are over the age of 21.

A large majority (68%) of the respondents reported a need for more math, in order to do well in electronics courses. Substantial proportions indicated they need reading (30%) or writing (33%).

Educational goals were varied. A higher proportion of current ELE students than former ELE students stated their goal is to obtain a degree in electronics (76% and 31%, respectively).

Excessive workload in ELE courses was a problem noted in regard to reasons for not meeting goals, withdrawals, and low grades. This problem was also mentioned in comments initiated by the respondents. Other frequently cited problems included availability of desired courses, and the attitudes and expectations of instructors.

Appendix A

GENERAL COMMENTS AND SUGGESTIONS

Former students:

"1. Too much outside time taken up for homework. 2. Problems not well explained. 3. Instructors didn't leave you with full understanding of material covered. 4. Lack of explanation of equipment used. 5. Lack of outside help for problems in class, when needed."

"I liked the courses, but we spent more time learning how to write a lab report than learned about electronics. Students lost interest very quickly."

"When I started ELE there were close to thirty people in the class... after I dropped out there were only 5 left ... for a beginning course in anything it was a real mind blower. Shop techniques was a real trip too...I think it would have been easier to learn the same material without a teacher."

"The knowledge I gained has helped me a great deal in my present occupation. The fundamental knowledge helps to follow experienced electricians and to write organized detailed reports to my supervisors. I think ELE 100 should be described as a class intended as a class for technicians (how to) not primarily for engineers (theory)."

"Too much work for a two credit class."

"Judgement of work produced and its quality should be more standardized among various instructors."

"I can only take classes in evening. When the college does offer one of the courses I need most of the time it is during the day or the class is cancelled due to low enrollment. It would be nice if there was more of a selection with teachers, I realize this is not always possible."

"I suggest that more elstronics courses be offered in the evening so more day shift workers could attend class such as 102."

"I have waited for one year for a 102 evening class. Is this normal?"

"I realize that there is a decline in night students but if a class is only offered once during the semester, why not offer it at a time equitable to both day and evening students. For this reason, poor scheduling of classes by KVCC, I am transferring to another college this fall."

"I feel the department puts too much emphasis on formal lab reports, which makes for a lot of busy work. That time could be used to indulge in more advanced electronics (integrated circuits, microprocessing) which is what industry is using now."

"I've been enrolled at KVCC since 1974 and I hope to graduate someday with a two year degree. My postponement is sometimes due to the fact that these courses are not always offered in varying time slots or only once a year."

" ...Too much emphasis put on proper form to write reports. And graded on proper form plus correct answers when the correct answer seemed to me to be more important."

"Every aspect of electronics had to be exact to meet (instructor's) personal goals. Was unable to discuss the material with him, he would get mad, argue and opinionated at me."

"The main problem with the program is that you can't get classes you need in succession. Because of this it takes at least 5 or maybe 7 semesters to go through a 2 year program. Also there is one instructor in the program who is very unfair and he discourages students from finishing the program."

"In the beginning phases of electronics the teachers should slow the pace a bit. I've seen more students drop the class I was in because the teachers were trying to scare us with the thought that you had to be a genius to do any kind of electronics. They flew through material that should have been taken more slowly. And took little time to help us out if we were running into trouble."

Current students:

" This could be an excellent program. But it can only be as good and informative as the 'instructor' makes it. And in the higher electronics courses this is definately not the case. I am nearly done with your program and I feel as though I have wasted a lot of my time and money... I do not learn through being made to believe I'm dumb and this had happened I'm surprised I've made it this far into the program."

"I think that the courses need to be organized such that there is not a year wait between some classes this would also give the student enough time to take more classes on the 200 level. Also I think that there is too much emphasis on theory and not enough practical lab work. I would like to see some labs in which actual trouble shooting techniques are developed...I feel the student is required to teach himself with almost no help from the instructor...lab schedule and number of labs is ridiculous...work load is way out of proportion for a 3 credit course...labs are unorganized...instructor uses much of the allotted lab time for lecture which requires much additional own lab time spent by the student... overall I think there is an extreme lack of preparation by the instructor which puts an unfair and impractical load on the student."

"More emphasis is placed on lab work and lab reports at KVCC than other institutions...getting through higher level ELE courses at KVCC can be grueling for a number of reasons...steps are very much needed to reduce the unneccessary pressure on upper level ELE students at KVCC."

"Before a student takes electronics he should have math and reading before he gets into electronics. It would help people who didn't get it in high school."

"I took a basic electronics course at WMU and learned very little compared to what I got out of ELE last semester. (instructors) are doing an outstanding job with the electronics courses. All the students that I have been in class with so far seem to generally feel the courses are tough, but very well taught."

"In several ways I am quite impressed with ELE the written instructions (handouts) on what is expected of the student are the best I have ever seen in all the many college and graduate courses that I have taken. (instructor) is very good and is understanding and helpful... intent to train technicians to write neat, carefully prepared reports is commendable... and yet, something is wrong. I can't remember a course which required so much time and effort for such a modest return in knowledge and skills gained (my classmates also seem to feel this way)...too much emphasis on form...too frequent digressions into trivial and irrelevant materials which breaks the train of thought and wastes time."

"(instructor) is the worst I have ever had..I have gone through eight weeks of the class and hate going to class. Anything I learn in electronics will be from my own doing...I entered this school with a small scholarship and a 3.75 GPA. This semester I have a feeling it will take a nose dive...11 chapters have flown by...I'm still trying to figure out what I was supposed to learn in the last eight weeks and our test is this week. All I can say is that (instructor) is a poor excuse for a teacher and you tell him I said so."

"Electronics is one of the tough courses at KVCC. And I think this course is one of the hardest...but I think I am not able to complete this course (due to) the policy of the electronics instructors. I think they have a hard policy...students who are going to take electronics courses at KVCC should have reading and writing courses ...maybe I can't judge about the instructor of this course but please tell them "take it easy"."

"I realize there is a lot of tension regarding the teaching staff from a lot of students but there are a lot of misunderstanding students... I do believe that some students have legitimate arguments and warrant serious discussion. The course would be much better if (instructors) would be more understanding. Their attitude of a person entering the electronics field is deplorable...their help is next to nothing...this is why the electronics program is not too good here..."

"This program has lots of potential and there are lots of prospective students who would take ELE, but there is extreme difficulty inside the ELE department. The main problem...is the incompetence of a particular instructor (who) has alienated, berated and threatened to physically assault students besides not performing his role as an instructor...he is behind his scheduling in lecturing. Whereas the whole class is ahead in the lab some 2 weeks of the lecture sections which makes it difficult to exercise theories not yet presented..."

CURRENT STUDENTS

Please complete each question with either a check (✓) or by writing in your answer. THANK YOU!

NAME: _____

SEX: M 43 F 2

AGE: (see third panel)

1) Are you currently enrolled in: (check all that apply)

16	ELE 100	9	ELE 105
13	ELE 101	7	ELE 205
~~XXXXXXXX~~	~~ELE 183~~	9	ELE 213

2) Have you officially withdrawn from any of the above courses?

39 NO -- Go to question 4.

6 YES -- which one? 101 - 3
102 - 1

3) Why did you withdraw? 230 - 1

_____

_____

_____

_____

4) Are you considering withdrawal from an ELE course?

31 NO -- Go to question 6.

11 YES -- which one? 100 - 2
101 - 4
205 - 1
213 - 1
283 - 1

5) Why are you considering withdrawal?

_____

_____

_____

_____

6) Do you plan to take more electronics courses at KVCC?

8 NO

34 YES

COMMENTS: _____

_____

_____

_____

7) Do you plan to get a degree in Electronics Technology from KVCC?

10 NO

32 YES

COMMENTS: _____

_____

_____

_____

8) Are you currently employed?

12 YES -- in electronics field

22 YES -- not in electronics field

11 Not employed

9) Do you feel you need courses in any of the following areas, in order to do well in electronics courses?

	YES	NO
MATH	29	16
READING	12	33
WRITING	11	34

OTHERS -- Please write in:

_____

_____

We would appreciate any other comments or suggestions you have regarding electronics courses at KVCC -- use back of sheet if needed.

AGE: 18 to 21 -- 15
22 to 25 -- 16
26 to 30 -- 5
41 to 40 -- 7
over 40 -- 2

_____

_____

_____

_____

FORMER STUDENTS

Please complete each question with either a check (✓) or by writing in your answer. THANK YOU!

NAME: _____

SEX: M 47 F 4

AGE: **(see third panel)**

1) What was your primary reason for enrolling in Electronics? Check ONE only.

16 To get a degree in electronics
11 To improve skills for present job
12 To help get a new job
14 For personal interest
4 Other reason: _____

_____

2) Did you reach your goal as checked in question #1?

10 YES

41 NO -- Why not? _____

_____

_____

3) Did you ever withdraw from an Electronics course?

23 NO

27 YES -- Why did you withdraw?

_____

_____

_____

4) Do you feel courses were needed in any of the following areas, in order to do well in electronics courses?

	YES	NO
Math	36	15
Reading	17	34
Writing	21	30

5) Are you currently taking other KVCC courses?

33 NO

18 YES -- Which ones? _____

_____

_____

6) Are you currently employed?

14 YES -- in electronics field

29 YES -- not in electronics field

8 Not employed

7) If you received a low grade in an electronics course, we would appreciate what you think the reason was for that low grade:

_____

_____

_____

_____

_____

Any additional comments or suggestions you have regarding electronics courses at KVCC would be much welcomed:

AGE: 18 to 21 -- 19
22 to 25 -- 8
26 to 30 -- 9
31 to 40 -- 13
over 40 -- 2

ELECTRONICS PROGRAM REVIEW
Secondary Data

027/77

Prepared by
Nancy A. Woods

Office of Institutional and Management Studies
KALAMAZOO VALLEY COMMUNITY COLLEGE

April 1978

Introduction

The following report presents secondary data gathered from various sources within the College. These data represent the variables chosen by the Dean of Instruction during February, 1978, for use in instructional program reviews, to wit: enrollment history, grade summary, seat utilization rate, and drop/add transactions.

All future requests for program review will be met with the type of information contained in this report. The Dean of Instruction will then determine whether or not a need for additional research exists.

Purpose

These data are provided to assist instructional administrators as appropriate. The information presented here is an aggregation of data available elsewhere in a less useful form. Comparison data is provided where possible.

Enrollment History

The total number of sections and students for all electronics (ELE) discipline courses, along with the average number of students per section, is presented for each semester in Appendix A. These data are summarized for each academic year, 1968 through 1976, as shown in Table I on the following page.

The average number of students enrolled in general academic class sections during calendar year 1977 was computed to be 17.2 (see backup data for X0321 -- Taxonomy Report). Vocational courses which fall below this average qualify for one of the cost criteria applied by the Department of Education in determining course funding classifications. Thus, a low per section enrollment may be advantageous in some circumstances.

TABLE I

ELECTRONICS ENROLLMENT HISTORY
Summary by Academic Year

Academic Year	Total Sections	Total Students	Average Students Per Section
1968	8	107	13.4
1969	12	120	10.0
1970	12	127	10.6
1971	16	170	10.6
1972	21	280	13.3
1973	24	268	11.2
1974	23	294	12.8
1975	21	409	19.5
1976	25	366	14.6

SOURCE: Enrollment History Notebooks -- Office of Dean of Instruction

Grade Summary

All grades awarded in ELE courses during Spring 1977 and Fall 1977 are presented by course in Appendix B. Also included are grades awarded in all courses for those same semesters.

Table II, following, shows the distribution of all ELE grades awarded compared to total grades awarded for Spring 1977 and Fall 1977. As the data reveal, passing grades in ELE courses average far below the total passing grades awarded at KVCC -- 40% and 68%, respectively -- while failures and withdrawals exceed the average.

TABLE II

GRADES AWARDED IN SPRING AND FALL, 1977

Grade	Electronics Grades Awarded N	%	All Grades Awarded N	%
4.0 to 1.0	115	40%	21,484	68%
X or 0.0	94	33%	5,222	17%
Withdrawal	62	22%	3,262	10%
Incomplete	16	6%	1,249	4%
Audit	-	-	422	1%
TOTAL	287	101%	31,639	100%

SOURCE: Data Processing reports -- GR007 and GR006

Seat Utilization Rate

Seat utilization rates for each discipline were computed from Section Master reports for both Spring 1977 and Fall 1977. Included in Appendix C are the maximum seats, actual seats (enrollment), and resulting utilization rate (percent) for each discipline.

Please note that this data does not reflect facilities utilization or class scheduling proficiency. The maximum seats listed for each course are determined primarily by teaching strategy. Facility utilization follows, not preceeds, application of these data.

Prior to aggregation by discipline, the data were reviewed and all community schools sections were eliminated from the analysis. This was done because students enrolled in those courses may opt for KVCC credit, but are not required to do so. Since the Section Master reports do not include non-credit enrollment, a community schools course often shows little or no enrollment and skews the rate for various disciplines. The

Office of Extended Educational Opportunities provided section numbers for this purpose.

Also excluded were sections which had no data for either maximum seats or actual seats. This phenomenon was due to cancelled sections which still show enrollment, or, sections which had not had paperwork completed to show cancellation.

The electronics discipline showed a utilization rate of 55% in both Spring 1977 and Fall 1977, compared to an average rate of 69% for all disciplines.

Many factors enter into the interpretation of these data, in as much as maximum seat figures for some courses are set arbitrarily, and are not often updated. The user should be aware of such limitations when making judgements based on these data.

Drop/Add Transactions

All drop and add transactions were computed for ELE courses for Spring 1977, Fall 1977, and Spring 1978. Registration Transaction History reports, provided by Data Processing, gave individual registration records for each requested section.

For comparison purposes, the Dean of Instruction chose three technical disciplines and one non-technical discipline: environmental control (ENV), mechanical and machine tool (MEC), materials science and mechanics (MSM), and community service assessment (CSA). Drop and Add transactions were computed for these disciplines in the same manner as ELE.

A course by course breakdown of registration transactions, summarized by semester, is included as Appendix D. Users of those data are reminded that comparisons across disciplines for any variable should take into consideration the differences in enrollment and credit hour values.

Table III, below, presents the net effect of the drop/add process during three semesters for the five disciplines under consideration. Ratios were computed in order to take into account the variation in enrollment size among the five disciplines. The ratios were computed by dividing the discipline enrollment as of the official count date by the initial enrollment (prior to drop/add period). A 1.00 signifies adds equaled drops, or there were no drop/add transactions. A ratio under 1.00 indicates more drops than adds; over 1.00 indicates mores adds than drops.

TABLE III

DISCIPLINE ENROLLMENT RATIOS
Enrollment as of Official Count Date to Initial Discipline Enrollment

	Discipline				
Semester	ELE	ENV	MEC	MSM	CSA
Spring 1977	.92	1.03	.99	.99	1.00
Fall 1977	.92	1.03	.96	.97	1.00
Spring 1978	.96	1.01	.96	1.04	1.00

SOURCE: Registration Transaction History reports

Drops due to section cancellations were excluded from the analysis. Withdrawals are not included in the ratios, as a withdrawal prior to the official count date is registered as a drop. Withdrawal effect on final course enrollment is included in Appendix D.

Summary

This report presents data related to four variables requested for a review of the Electronics Program. Secondary data were used in all

instances. Comparison data is considered reliable for the variables of enrollment (students per section) and grade summary. Data for comparison of seat utilization rates is reliable only in so far as maximum seat figures are uniformly set across disciplines. The drop/add transaction ratios are comparable to those disciplines presented, but should not be generalized beyond those disciplines.

For each variable presented, electronics falls below the available comparison information:

1) Enrollment per section averaged 6.9 students below the general academic mean for Calendar Year 1977.

2) Passing grades average 28% below the College mean.

3) Seat utilization rate falls 14% below the mean rate of all disciplines.

4) Enrollment lost through the drop/add process exceeds that of disciplines chosen for comparison purposes.

Please contact the Office of Institutional and Management Studies for any needed clarification.

Appendix A

ELECTRONICS COURSES: ENROLLMENT HISTORY

Semester	Total Sections	Total Students	Average Students Per Section
Fall 1968[a.]	5	77	15.4
Spring 1969	3	30	10.0
Summer 1969	-	-	-
Academic Year Total	8	107	13.4
Fall 1969	6	70	11.7
Spring 1970	5	37	7.4
Summer 1970	1	13	13.0
Academic Year Total	12	120	10.0
Fall 1970	6	60	10.0
Spring 1971	6	67	11.2
Summer 1971 (missing)			
Academic Year Total	12	127	10.6
Fall 1971	10	119	11.9
Spring 1972	5	46	9.2
Summer 1972	1	5	5.0
Academic Year Total	16	170	10.6
Fall 1972	13	167	12.8
Spring 1973	7	102	14.6
Summer 1973	1	11	11.0
Academic Year Total	21	280	13.3
Fall 1973	11	139	12.6
Spring 1974	11	116	10.5
Summer 1974	2	13	6.5
Academic Year Total	24	268	11.2

Semester	Total Students	Total Sections	Average Students Per Section
Fall 1974	9	127	14.1
Spring 1975	11	142	12.9
Summer 1975	3	25	8.3
Academic Year Total	23	294	12.8
Fall 1975	10	184	18.4
Spring 1976	11	225	20.5
Term C 1976	-	-	-
Summer 1976	-	-	-
Academic Year Total	21	409	19.5
Fall 1976	10	159	15.9
Spring 1977	14	165	11.8
Term C 1977	-	-	-
Summer 1977	1	2	1.0
Academic Year Total	25	366	14.6

SOURCE: Enrollment History Notebooks -- Office of Dean of Instruction

a) CAP sessions are included in Fall and Spring data from 1968 through Spring 1971.

Appendix B

ELECTRONICS COURSES: GRADE SUMMARY
All Spring 1977 and Fall 1977 Sections

	GRADE									
	Passing Grades		X or 0.0		Withdrawals		Incompletes		Total Grades Awarded	
Course	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
100	22	(21)	48	(47)	26	(25)	7	(7)	103	(100)
101	8	(28)	11	(38)	7	(24)	3	(10)	29	(100)
102	14	(37)	9	(24)	11	(29)	4	(11)	38	(100)
105	30	(51)	18	(31)	11	(19)	-		59	(100)
112	17	(63)	5	(19)	5	(19)	-		27	(100)
113	14	(67)	3	(14)	2	(10)	2	(10)	21	(100)
206	10	(100)	-		-		-		10	(100)
TOTALS	115	(40)	94	(33)	62	(22)	16	(6)	287	(100)

SOURCE: Data Processing reports -- GR007

NOTE: 270 and 280 level courses are excluded. There were no Audits.

ALL GRADES AWARDED AT KVCC
Spring 1977 and Fall 1977

Passing Grades		X or 0.0		Withdrawals		Incompletes		Audits		TOTAL	
N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(
21,484	(68)	5,222	(17)	3,262	(10)	1,249	(4)	42[illegible]	(1)	31,639	(1

SOURCE: Data Processing reports -- GR006

Discipline	Spring 1977 Maximum Seats	Spring 1977 Actual Seats	Spring 1977 Utilization Rate (%)	Fall 1977 Maximum Seats	Fall 1977 Actual Seats	Fall 1977 Utilization Rate (%)
+20	222	113	50	240	67	27
ACC	647	519	80	737	673	91
ART	618	521	84	665	520	78
AUT	790	568	72	613	421	69
BIO	744	564	75	711	657	92
BUS	1,380	1,180	86	1,830	1,466	80
CET	219	183	84	211	169	80
CHM	444	298	67	540	403	75
CRE	168	111	66	170	141	82
CSA	328	208	63	340	217	64
DHY	431	322	74	552	328	59
DPR	217	136	63	217	149	68
DRT	394	288	73	347	254	73
ECO	395	311	[illegible]	447	358	80
ELE	299	165	55	254	141	55
ENG	1,715	1,483	86	1,582	1,396	88
ENV	58	31	53	176	102	57
FDC	158	107	68	181	141	78
FIS	90	32	36	120	16	13
FRE	61	29	47	90	47	52
GER	33	8	24	60	20	33
HCR	1,970	965	49	1,753	693	40
HRT	520	309	59	351	171	48
HUM	317	245	77	230	188	82
IEL	96	67	69	133	97	72

Discipline	Spring 1977 Maximum Seats	Spring 1977 Actual Seats	Spring 1977 Utilization Rate (%)	Fall 1977 Maximum Seats	Fall 1977 Actual Seats	Fall 1977 Utilization Rate (%)
LEI	2,113	1,565	74	-	-	-
LEN	780	358	45	870	487	56
LTM	150	85	57	171	88	51
MEC	138	101	73	260	138	53
MOA	203	109	53	171	97	56
MSM	192	165	86	203	182	90
MTH	1,294	846	65	1,294	937	72
MUS	286	178	62	285	167	59
NRG	1,219	753	61	778	596	77
PER	-	-	-	1,630	1,074	66
PHI	363	248	68	120	114	95
PHY	139	114	82	143	111	77
PSC	40	26	65	-	-	-
PSI	806	548	67	689	525	76
PSY	551	471	85	600	491	82
RTH	30	11	36	60	48	81
RTV	44	13	30	10	1	10
SEC	909	554	61	1,001	512	51
SOC	1,200	676	56	841	533	63
SPA	55	34	62	88	62	70
SPH	207	161	77	229	165	72
SSI	130	135	103	95	85	89
TOTALS	23,163	15,914	69	22,088	15,249	69

Note: Data pertaining to community schools courses are excluded. Any section which did not have both maximum seats and actual seats data was also excluded.

Source: Section Master reports for Spring 77 and Fall 77.

Appendix D

REGISTRATION TRANSACTION HISTORY
For Selected Disciplines

ELECTRONICS -- Spring 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a]
100	57	2	7	10	42	(10)
101	39	2	5	7	29	(9)
102	29	-	2	6	21	(6)
105	34	2	3	4	29	(1)
112	16	2	-	3	14	4
113	17	2	7	-	12	(10)
206	11	-	1	-	10	(4)
283	5	-	1	1	3	(3)
TOTAL	208	10	26	31	161	(39)

ELECTRONICS -- Fall 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a]
100	86	-	9	16	61	(36)
102	12	-	-	3	9	-
105	37	1	1	7	30	-
112	14	-	-	2	12	-
113	12	1	2	2	9	(2)
282	12	-	3	-	9	(6)
TOTAL	173	2	15	30	130	(44)

ELECTRONICS -- Spring 1978

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Enrollment as of 3/15/78	Overall Credit hour Gain (Loss)[a]
100	49	6	9	4	42	(12)
101	38	-	7	2	29	(28)
105	26	5	1	2	28	4
205	14	-	1	-	13	(3)
213	12	1	-	-	13	2
282	10	-	1	-	9	(2)
283	24	-	-	3	21	-
TOTAL	173	12	19	11	155	(39)

ENVIRONMENTAL CONTROL -- Spring 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a]
121	19	3	2	2	18	4
206	11	-	-	-	11	-
TOTAL	30	3	2	2	29	4

ENVIRONMENTAL CONTROL -- Fall 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a]
120	30	3	-	5	28	12
150	20	2	-	6	16	4
205	24	2	1	6	19	2
210	11	1	2	1	9	(3)
282	27	13	15	-	25	(4)
TOTAL	112	21	18	18	97	11

ENVIRONMENTAL CONTROL -- Spring 1978

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Enrollment as of 3/15/78	Overall Credit hour Gain (Loss)[a]
121	18	-	-	-	18	-
150	18	4	-	-	22	8
220	14	1	4	1	10	(12)
282	24	-	-	-	24	-
TOTAL	74	5	4	1	74	(4)

MECHANICAL AND MACHINE TOOL -- Spring 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a]
103	42	1	4	5	34	(9)
105	19	1	1	1	18	-
161	7	-	-	-	7	-
171	6	-	-	-	6	-
181	7	-	-	-	7	-
202	8	2	1	-	9	3
220	12	1	-	2	11	4
250	10	-	-	1	9	-
TOTAL	111	5	6	9	101	(2)

MECHANICAL AND MACHINE TOOL -- Fall 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a].
101	35	-	1	3	31	(3)
103	59	7	9	3	54	(6)
160	9	-	-	-	9	-
170	8	-	1	-	7	(3)
180	6	-	-	-	6	-
201	13	1	3	1	10	(6)
205	10	2	1	-	11	2
TOTAL	140	10	15	7	128	(16)

MECHANICAL AND MACHINE TOOL -- Spring 1978

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Enrollment as of 3/15/78	Overall Credit hour Gain (Loss)[a].
103	46	-	2	3	41	(6)
105	29	1	5	-	25	(12)
161	9	-	-	-	9	-
171	7	-	-	-	7	-
181	6	-	-	-	6	-
202	8	-	-	-	8	-
220	6	-	-	-	6	-
231	10	1	-	1	10	3
TOTAL	121	2	7	4	112	(15)

MATERIALS SCIENCE AND MECHANICS -- Spring 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a]
110	76	5	6	10	65	(3)
120	59	4	5	4	54	(3)
121	38	2	2	4	34	-
260	13	2	2	1	12	-
282	11	-	-	-	11	-
TOTAL	197	13	15	19	176	(6)

MATERIALS SCIENCE AND MECHANICS -- Fall 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a]
110	89	2	7	4	80	(15)
111	19	1	3	-	17	(6)
120	71	12	11	9	63	3
240	27	1	2	4	22	(4)
282	7	-	-	-	7	-
283	2	-	-	-	2	-
TOTAL	215	16	23	17	191	(22)

MATERIALS SCIENCE AND MECHANICS -- Spring 1978

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Enrollment as of 3/15/78	Overall Credit hour Gain (Loss)[a.]
110	63	7	6	3	61	3
113	32	5	4	2	31	3
120	33	6	3	2	34	9
121	21	1	-	-	22	2
260	26	2	1	-	27	4
282	12	-	-	-	12	-
TOTAL	187	21	14	7	187	21

COMMUNITY SERVICE ASSISTANT -- Spring 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a.]
101	33	2	1	2	32	3
102	30	2	3	4	25	(3)
213	19	-	-	2	17	-
281	138	-	1	-	137	(1)
282	32	-	-	-	32	-
TOTAL	252	4	5	8	243	(1)

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COMMUNITY SERVICE ASSISTANT -- Fall 1977

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Final Course Enrollment	Overall Credit hour Gain (Loss)[a]
101	43	1	1	2	41	-
102	27	1	1	4	23	-
202	26	1	-	2	25	3
211	24	2	-	3	23	6
281	40	-	2	-	38	(2)
282	24	-	1	2	21	(2)
283	3	-	-	-	3	-
TOTAL	187	5	5	13	174	5

COMMUNITY SERVICE ASSISTANT -- Spring 1978

Course	Initial Enrollment	+ Adds	- Drops	- Withdrawals	= Enrollment as of 3/15/78	Overall Credit hour Gain (Loss)[a]
101	30	1	1	3	27	-
102	17	5	4	-	18	3
210	32	2	1	1	32	3
213	31	1	3	1	28	(6)
281	27	-	-	-	27	-
TOTAL	137	9	9	5	132	-

SOURCE: Registration Transaction History reports

a) Withdrawals do not constitute a loss in credit hours as the W is assigned after the official count date. Prior to the count date, a D is assigned.